CEMB S.p.A.

PX 980

Ed. 10/03

INSTALLATION, USE AND

MAINTENANCE GUIDE

Cod. 3012503

CEMB S.p.A.

CE

DICHIARAZIONE CE DI CONFORMITA'
CE DECLARATION OF CONFORMITY
DECLARATION DE CONFORMITE CE
CE - ÜBEREINSTIMMUNG

CEMB spa - Via Risorgimento, 9 - 23826 Mandello del Lario (LC) - ITALY

dichiara sotto la propria esclusiva responsabilità che il prodotto:
declare on our own responsibility that the product:
Déclare sous son propre responsabilité que le produit:
erklärt unter ihrer eigenen Verantwortung, daß das Erzeugnis:

Smontagomme auto
Tyre Changer
Démonte-pneus pour voitures
Reifenmontiergerät für PKW

PX980

al quale questa dichiarazione si riferisce E' CONFORME ALLE SEGUENTI NORME:
t*o which declaration refers is IN CONFORMITY WITH THE FOLLOWING STANDARDS:*
au quel cette déclaration se rapporte, correspond au modèle examiné et QU'IL EST CONFORME AUX NORMES SUIVANTES:
darauf diese Erklärung Bezug nimmt, dem geprüften Modell entspricht und mit den folgenden Bestimmungen übereinstimmt:

EN 292 / 1991

In base a quanto previsto dalle direttive
with reference to directives
D'après les directives
Der Vorschriften gemäß:

98/37/CEE - 91/368/CEE - 93/68/CEE
89/336/CEE - 86/217/CEE - 87/404/CEE - 73/23/CEE
D.P.R. nr. 459 del 24/07/96

Mandello del Lario, 18/06/2001

p. CEMB S.p.a.
Ing. Carlo Buzzi

Il modello della presente dichiarazione è conforme a quanto previsto nella Norma EN 45014
The model of present declaration is in conformity with directive EN 45014
Le modèle de cette déclaration est conforme à la Norme EN 45014
Das Modell dieser Erklärung übereinstimmt mit der Bestimmung EN 45014

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AFTER EACH MOUNTING OF THE SUPPORT INNER RING, CLEAN THE FOLLOWING PARTS WITH **A DRY RAG**:

- **THE TYRE BEADS**
- **THE RIM GROOVES**
- **THE SUPPORT RING MOUNTING ROLLER**

1. INTRODUZIONE

Thank you for purchasing **PX 980**, the device studied to facilitate mounting / removing of special tyres.
The machine has been constructed to the best quality principles.
For the best efficiency and a long working life simply follow the simple instructions contained in this guide, which must be read and understood throughly before use.

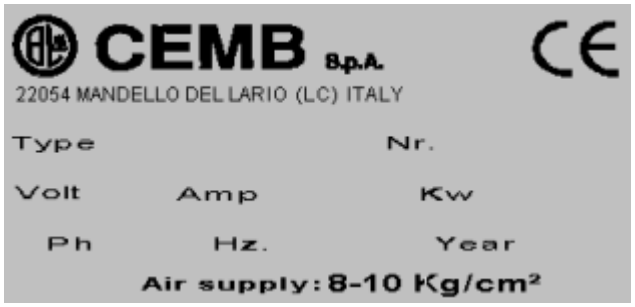
TYRE-CHANGER IDENTIFICATION
Aid the after-sales service by always specifying MODEL and SERIAL NUMBER of your machine, whose data are given below.
In case of discrepancies between the data in this manual and those on the nameplate stuck onto the tyre-changer, **the nameplate is to be considered as correct.**

MANUFACTURER

CEMB Spa

Via Risorgimento, 9 - 23826 Mandello del Lario (LC) - Italia
Tel. (0341) 706.111 - Fax. (0341) 700.725

NAMEPLATE DATA



The present guide is an integral part of the product. Before using your tyre-changer, read all the instructions carefully, since they provide important information concerning safety at work and maintenance.

Keep this guide in a safe place and consult it whenever in doubt.

Attention: some of the instructions contained in this guide are made by pictures of prototypes. Some parts of the standard production can therefore differ from what illustrated.

2. DESCRIPTION OF THE PARTS

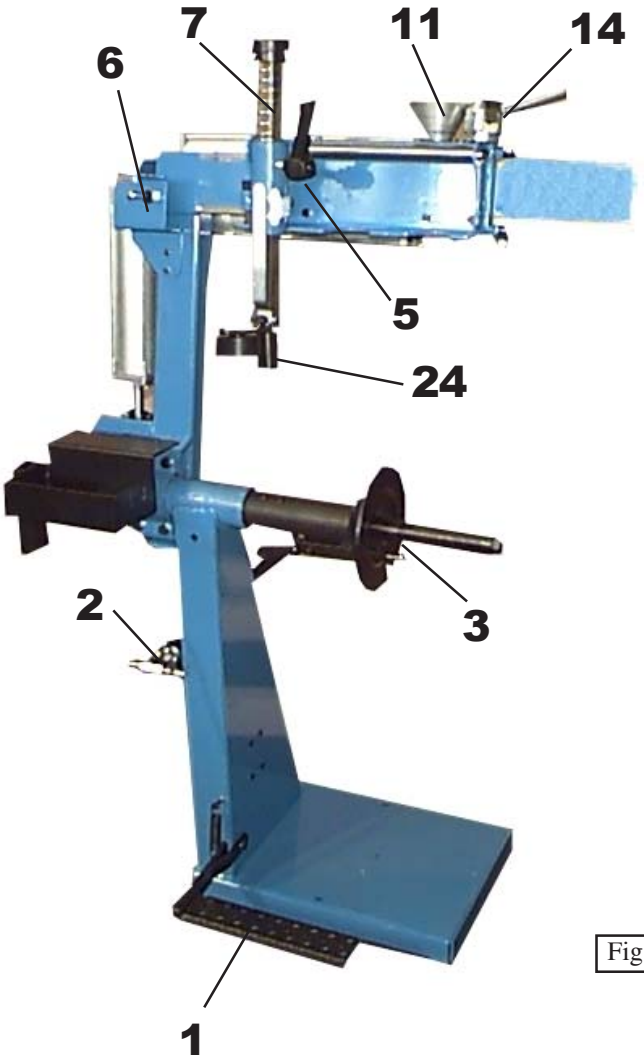


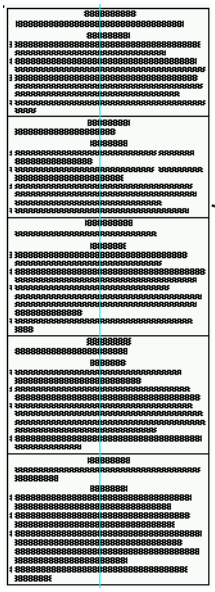
Fig. 1

1. Rotation foot-control
2. Air connection
3. Locking flange with anti-slip pin
5. Operating arm locking device
6. Arm horizontal translation control
7. Operating Arm
11. Wheel centering cone Ø 40-100 mm.
14. Quick locking ring nut
24. Plastic tool for tyre mounting / removing

2.1 WARNING STICKERS

Cod. 3001104

Cod. 3000963



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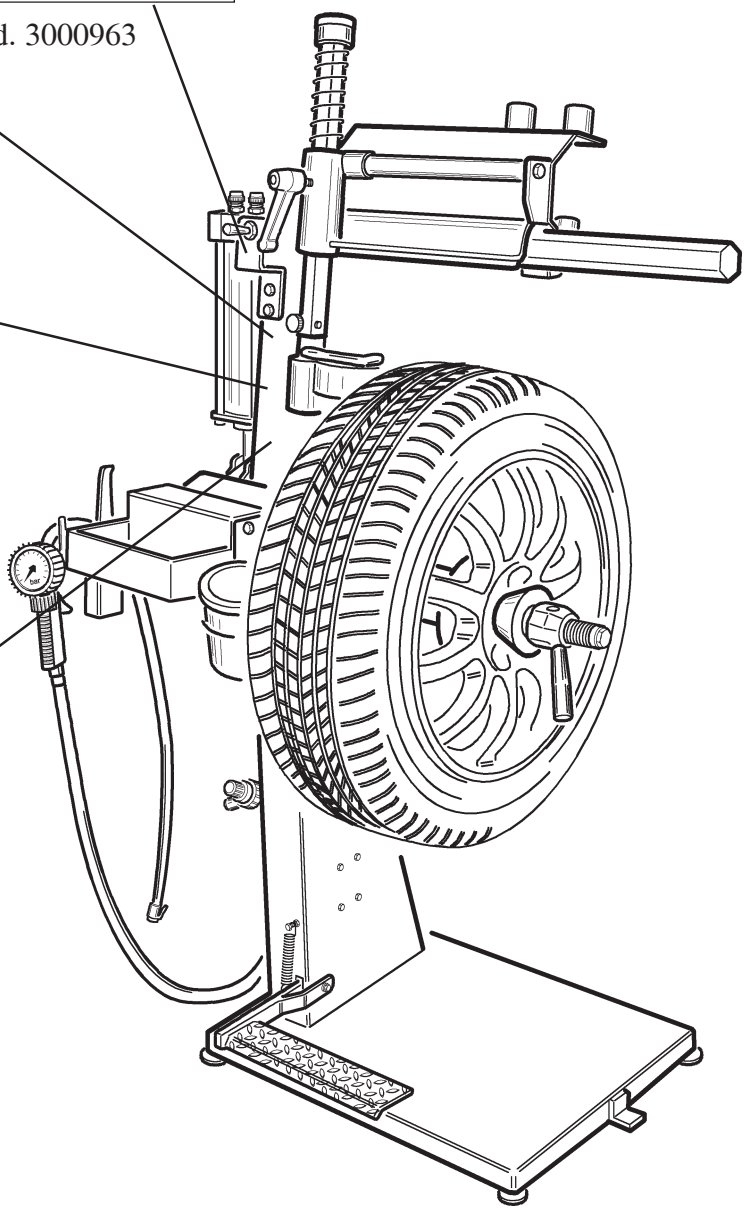
Cod. 3005416



3. DOTAZIONE

Fig. 2

11. Centering cone Ø 40-100 mm.

14. Quick locking ring nut.

16. Mounting support plate

18. Lubricating paste cup

19. Brush

21. Special conical tool

24. Tool for mounting/removing operations

25. Shaped lever for removing operations

26. Plastic protective band for removing operations

27. Shaped support plate for mounting operations

28. Long lever

29. Bent lever for mounting operations

32. Plastic protection for hub

4. GENERAL

4.1 INTENDED USE

STEP ONE has been studied and manufactured to facilitate mounting/removing operations of special tyres.

Any other use is to be considered improper and thus irrational.

In particular, the constructor cannot be held responsible for any damage or injury caused by improper use.

4.2 GENERAL SAFETY RULES.

The machine may only be used by technical staff, previously authorized and trained.

Any tampering or modification, if not previously authorized by the constructor, relieves this one of eventual damages referred to the mentioned actions.

Any tampering or modification of the safety devices constitutes a breach of the European Safety Laws and the warranty will immediately become null and void.

The tyre-changer is equipped with instruction and warning stickers designed and produced to last over time. In case they get damaged or destroyed the user must apply to the constructor for replacing them.

5. TRANSPORT

The machine must be transported in its original package and kept in the position shown on the package itself.

Move the machine by means of a fork-lift truck having enough loading capacity. Fit the forks as shown in fig.3

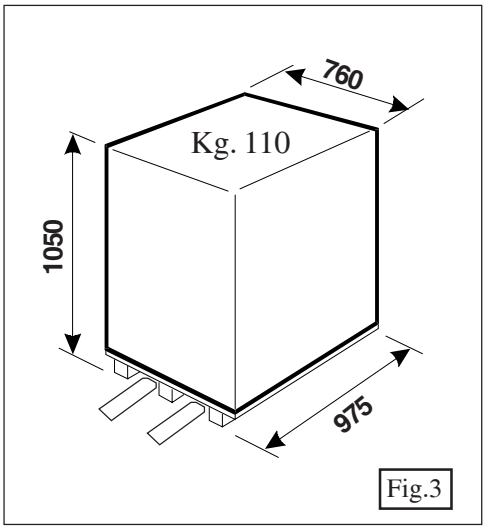


Fig.3

6. UNPACKING

Remove the whole package (paper and plastic).

Make sure that the tyre-changer has not suffered any damage during transport.
Use fig. 1-2-4 as a reference.

In case of doubt, do not use the machine and contact your retailer

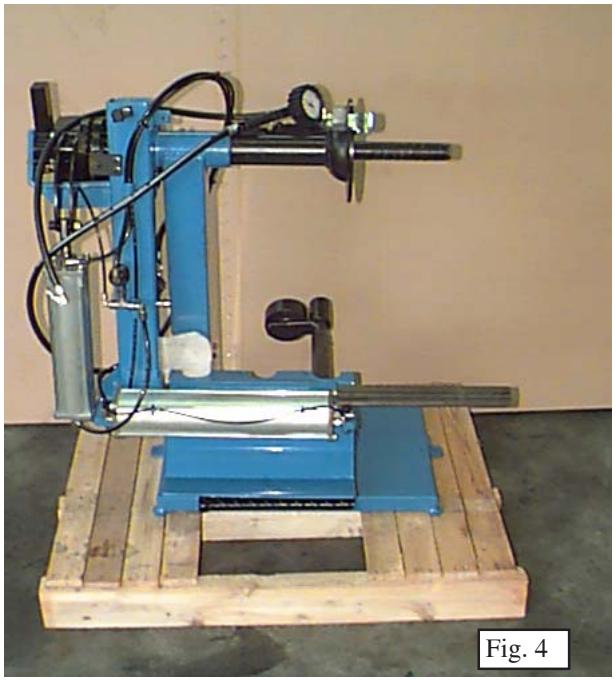


Fig. 4

7. INSTALLATION

7.1 Space required

Chose the installation site according to the current rules on Safety at Work.

The appliance needs to be connected to the compressed air network. It is therefore advisable to install it in a place where this connection is available.

Moreover, the installation space must allow the operator to use the machine and all its components without any restriction (see dimensions given in fig. 5-5/a)

In case of installation in the open air it is necessary to protect the machine by means of a lean-to.

Once the installation site has been defined, it is advisable to fix the machine at ground.

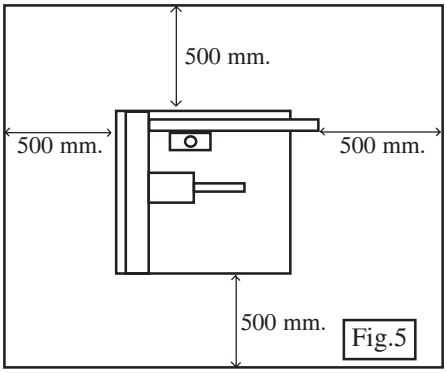


Fig.5

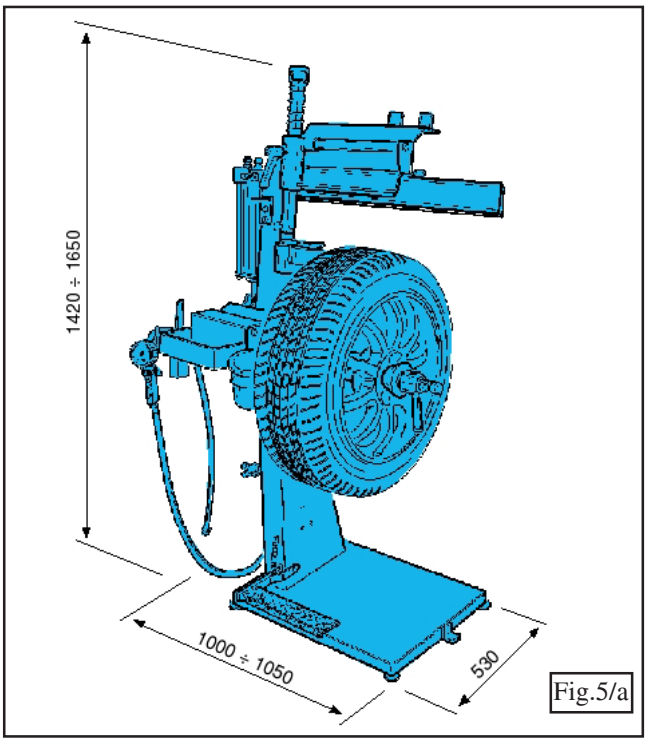


Fig.5/a

7.2 SETTING AT WORK

Let the vertical arm up until it is locked in the position shown by the picture below

Fig. 6

Fig. 7

Set the alignment screw into the proper hole and lock by tightening the nut placed inside the machine body.

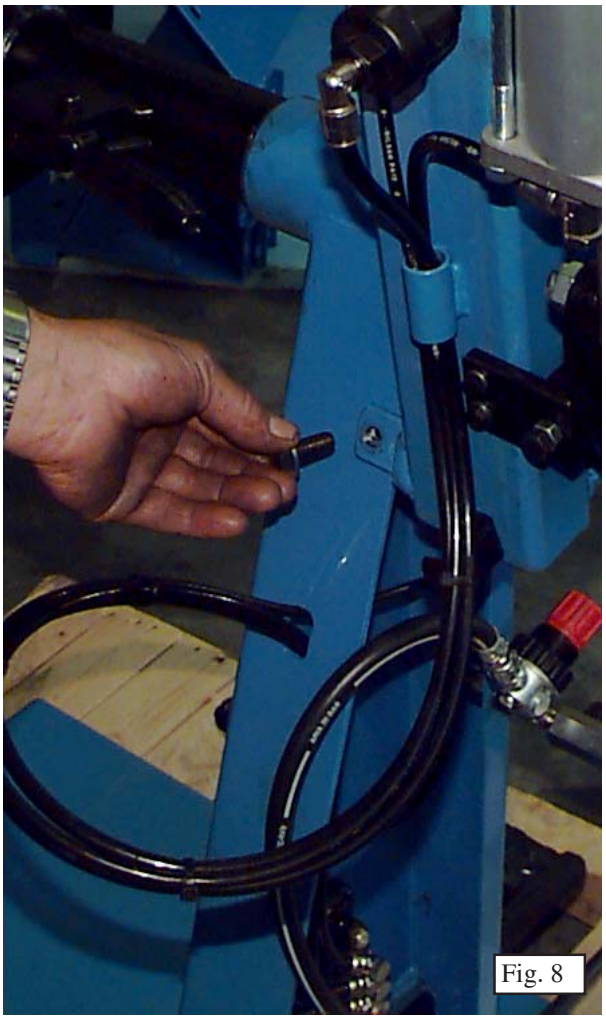


Fig. 8

Let the pneumatic pipes pass through the proper fastener to avoid any damage when using the tyre-changer

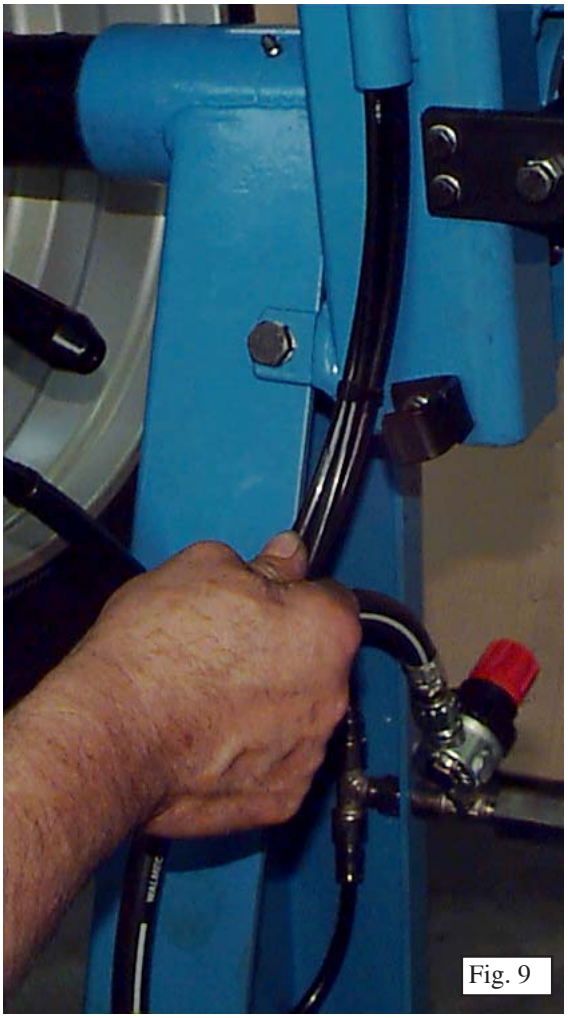


Fig. 9

Tighten the anti-slip screws placed under the tool-holding cup.

Lift the tyre-changer slightly by one side in order to set the lifter forks.
Lift it so as to be able to remove the pallet and set it in the installation site.

Connect the machine to the compressed air system by means of the union placed at the machine left side.

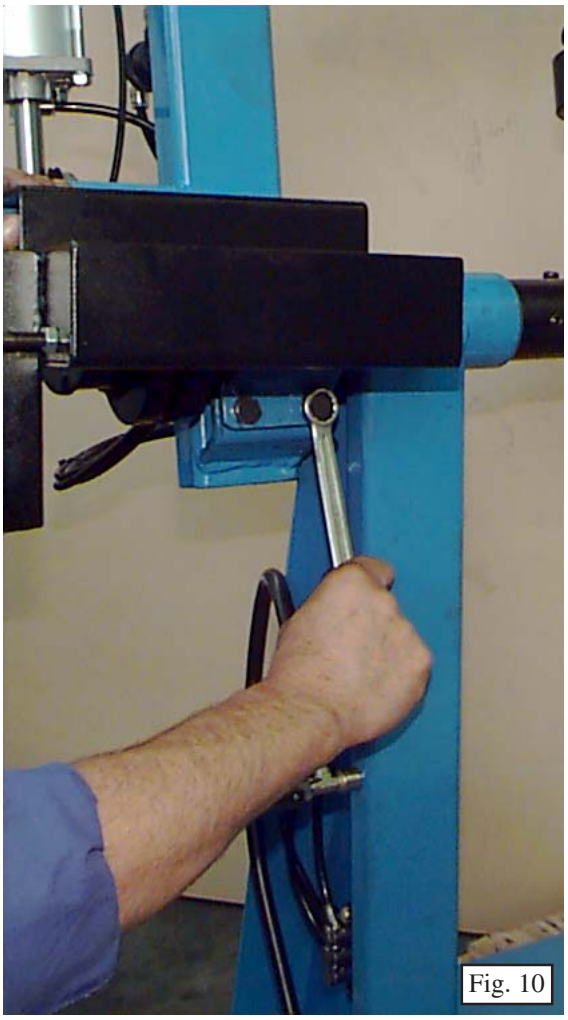


Fig. 10

8. USE

8.1 HOW TO USE THE SCALE BAR

Tyre-changer operating arm is equipped with a scale bar so allowing, by means of the detected rim measure, a correct quick positioning of the tool.
The device is also equipped with a position gauge with two reference levels:

INT to be used when working on the rim inner side

EXT to be used when working on the rim outer side

INNER SIDE (fig. 11/a)

- Read the rim measure marked on the tyre
- Position the operating arm on the rim inner side
- Move the tool up/down until the rim measure (in mm.) is reached on the scale bar. **Use INT as a reference since you are working on the rim inner side.**

OUTER SIDE (fig. 11/b)

- Position the operating arm on the rim outer side

Move the tool up/down until the rim measure (in mm.) is reached on the scale bar. **Use EXT as a reference since you are working on the rim outer side.**

NOTE:

During the mounting phase, when setting the bead on the tyre, position the tool as follows:

- Both outside and inside, use EXT as a reference and position the tool one level lower than the rim measure.

Practical example:

in case of a 360mm. rim….

Tool positioning inside

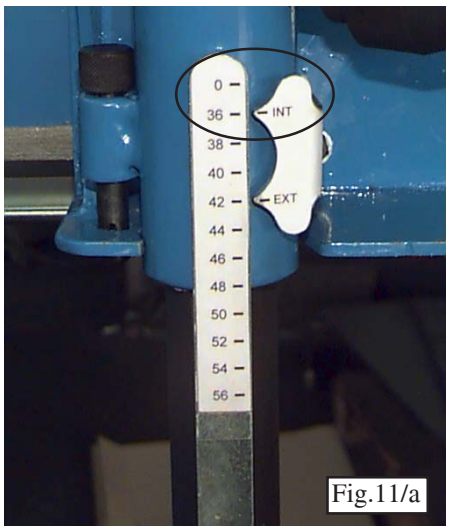


Fig.11/a

Tool positioning outside

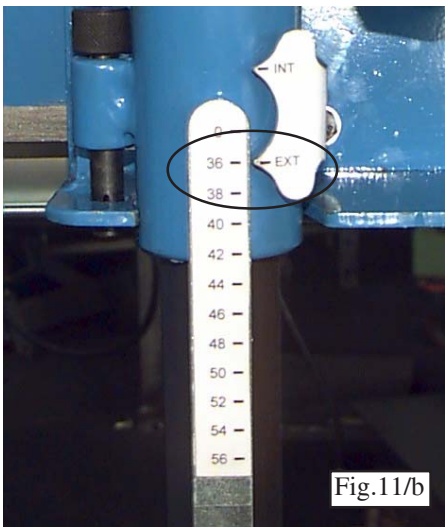


Fig.11/b

Tool positioning for bead setting

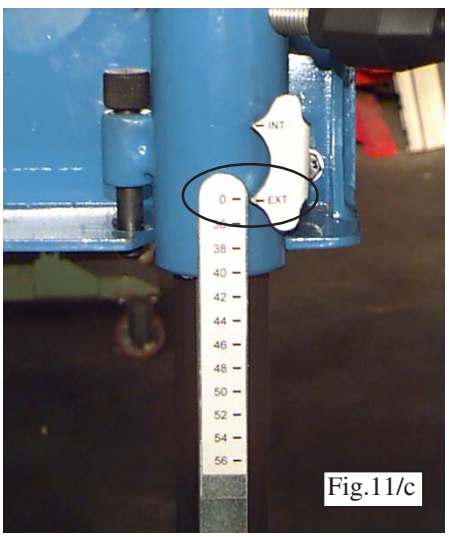


Fig.11/c

8.2 PAX SYSTEM TYRES REMOVING OPERATIONS

Set the plastic protection on the threaded hub, as shown in fig.12

Fig.12

Set the wheel onto the locking flange (fig. 13)

Fig.13

Pay particular attention to let the anti-slip pin inside one of the rim holes (Fig. 14)

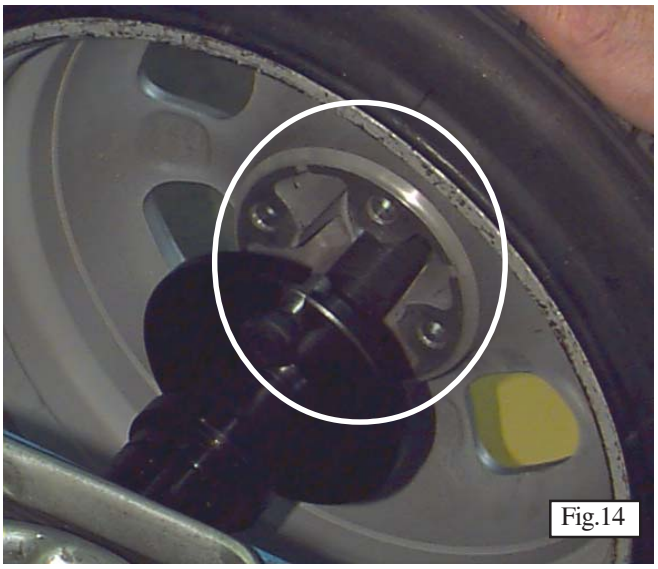


Fig.14

Remove the plastic protection (fig.15)

Fig.15

Set the centering cone. (Ref. 11)

Lock by means of the proper locking ring nut (Ref. 14)

Deflate the tyre completely

Read the rim measure marked on tyre.

Fig.16

Move the tool towards the rim inner side (fig. 17)

Move the tool up/down until the rim measure (in mm.) is reached on the scale bar.

Use INT as a reference since you are working on the rim inner side.

Fig. 17

Lock the operating arm by means of the locking lever (fig. 18)

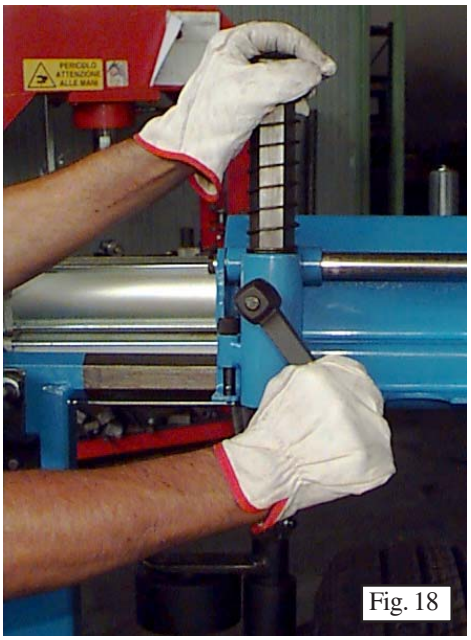


Fig. 18

Let the tyre turn and, at same time, move the tool outwards as to create a gap between tyre and rim.

Grease the gap surface along the rim circumference (fig. 19)

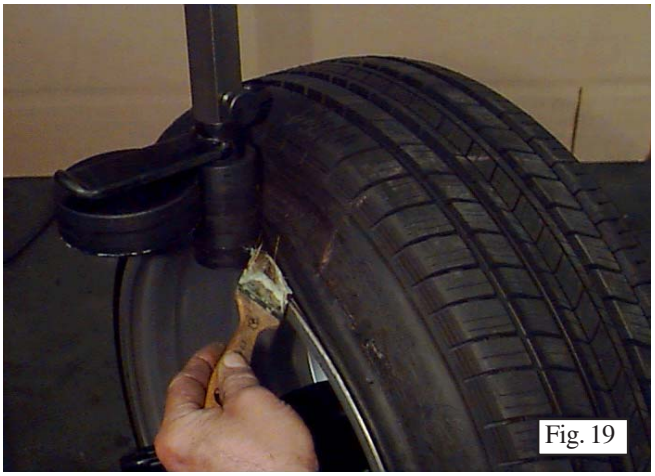


Fig. 19

Go on rotating and push the tyre bead on rim mounting/removing groove (fig. 20)

NOTE: “PAX System” specifications confine themselves to the use of lubricants for “touring” tyres.

Fig. 20

DO NOT keep your hands onto the wheel: the recovery back to "working" position could cause a hand-crushing between rim and tool.

Move the operating arm towards the rim outer side (fig.21)

Move the tool downwards until the rim measure (in mm.) is reached on the scale bar.

Use EXT as a reference since you are working on the rim outer side.

Lock the operating arm in position by means of the proper lever.

Fig.21

Keep your hands and body as far as possible from the tool when turntable is running, to avoid any crushing risk.

Let the tyre turn and, at same time, move the tool outwards as to create a gap between tyre and rim.

Grease the gap surface along the rim circumference (fig. 22)

Fig. 22

Set the plastic band end (ref. 26) under the tyre bead, in the previously obtained gap (fig.23)

Make sure that the band tongue stays outside the tyre.

Let the wheel turn slowly and help the plastic band in setting itself, paying attention until it is completely inserted. (fig. 24)

Fig. 23

Move the tool and set it in rest position (fig.24)

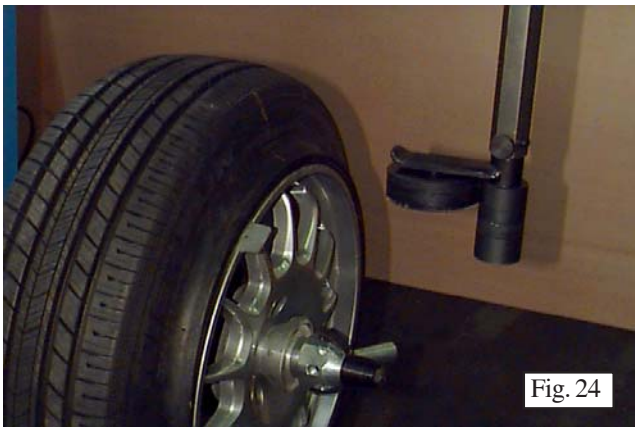


Fig. 24

Set the shaped lever (ref.25) between plastic band and tyre bead (fig.25)

Fig. 25

Push the lever downwards to let the tyre bead go out from its seat (fig. 26)

Fig. 26

Remove the lever and take the plastic band (fig. 27)

Fig. 27

DO NOT keep your hands onto the wheel: the recovery back to "working" position could cause a hand-crushing between rim and tool.

Move the tool towards the rim inner side.
Move the tool upwards until the rim measure (in mm.) is reached on the scale bar.

Use **INT** as a reference since you are working on the rim inner side.

Position the tool as shown in fig. 28

Fig. 28

Let the wheel turn and, at same time, push the tool against "tyre/support ring" unit to remove them from their seat (fig. 29)

During this operation it is recommended to hold the tyre lightly up to facilitate the pulling out of tyre/inner ring unit.
Always check the bead, which must be set between tool and inner support to avoid damaging the tyre envelope

Fig. 29

Carry the operation manually through to pull the tyre/ inner ring unit out of the rim.(fig. 30)

During pulling out operation pay attention not to stress the pressure sensor.

Fig. 30

NOTE: PULLING THE INNER RING OUT OF TYRE

To pull the inner ring out of tyre, always refer to the instructions for PAX System mounting given by manufacturers.

8.2.1 VARIANT FOR REMOVING TYRE/INNER RING UNIT (to be adopted in case of difficulties in standard procedure)

Take the anti-rotation pin (A) out

Take the standard tool (24) out

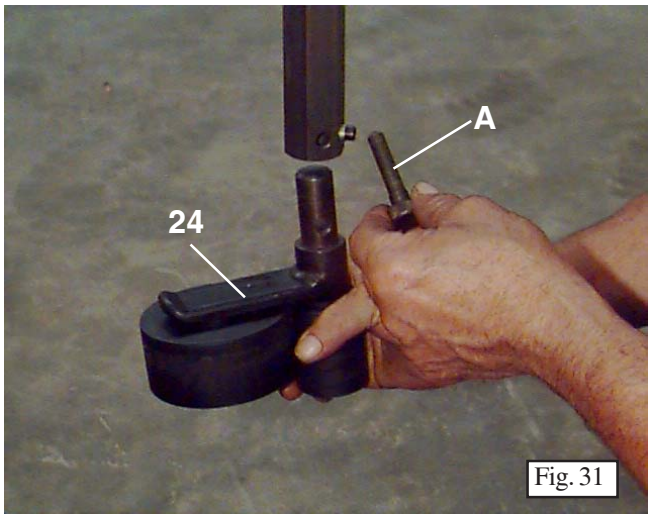


Fig. 31

Replace the standard tool (24) by the conical one (21)

Set the anti-rotation pin (A) back in position.

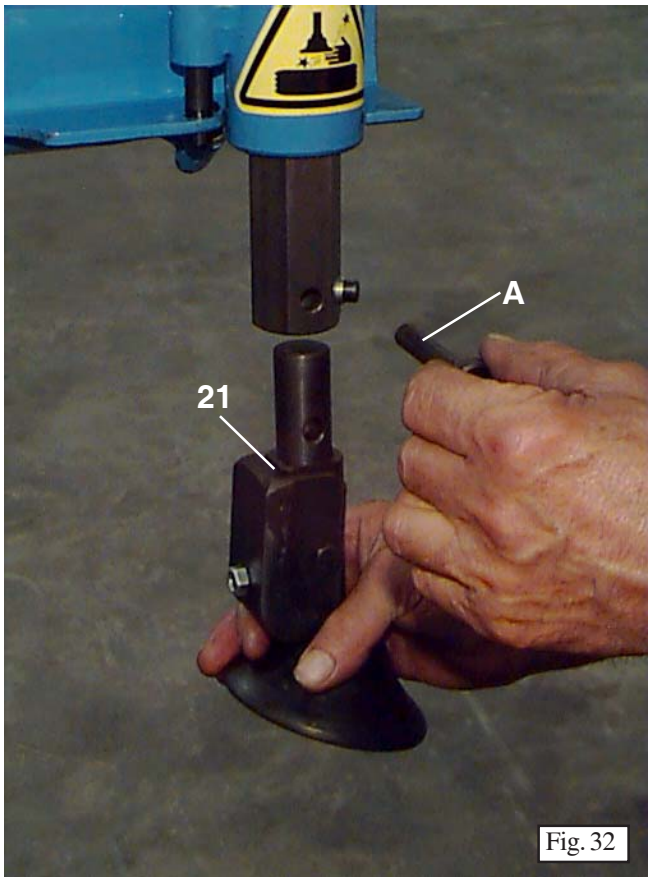


Fig. 32

Set the disk onto the rim inner groove edge.

Exert a certain pressure on operating arm to let the conical tool swing until it is correctly positioned as shown in fig. 33.

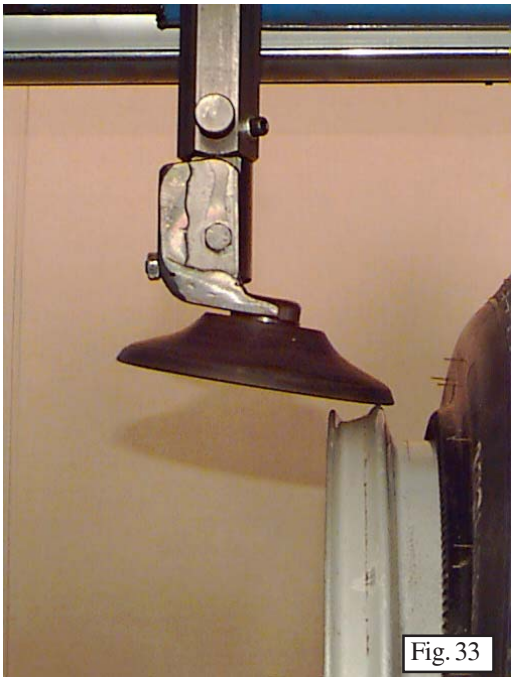


Fig. 33

Lock in position by means of locking lever (fig. 34)

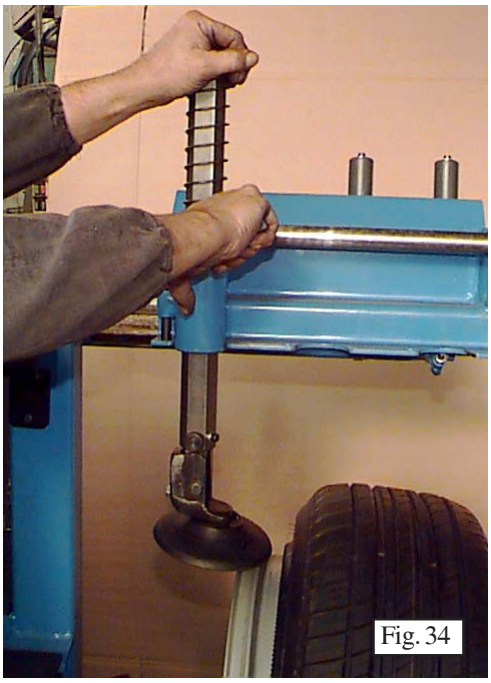


Fig. 34

Move the conical tool towards rim outer side and, at same time, lift the tyre lightly.

In this way, the tool will set itself against the inner support ring in order not to damage the bead (fig. 35)

Fig. 35

During pulling out operation pay attention not to stress the pressure sensor

Let the tyre turn and, at the same time, move the conical tool towards the rim outer side (fig.36)

Fig. 36

Go on until the pulling out of tyre/inner ring unit from rim is completed. (fig. 37)

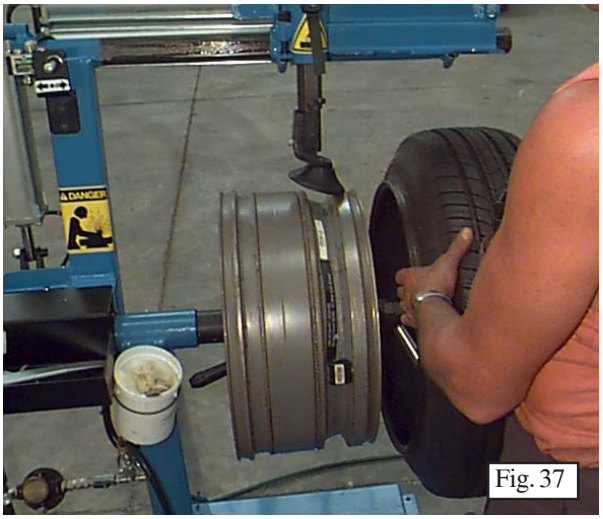


Fig. 37

Replace the conical tool (21) by the standard one (24) as shown at page 17

8.3 CONICAL TOOL ADJUSTING OPERATIONS

The conical tool (21) has a swinging movement necessary for a correct use during the removing operations of tyre/inner ring unit.
The manufacturer has already preset this movement correctly.
In case it becomes necessary to adjust the swinging movement again, proceed as follows

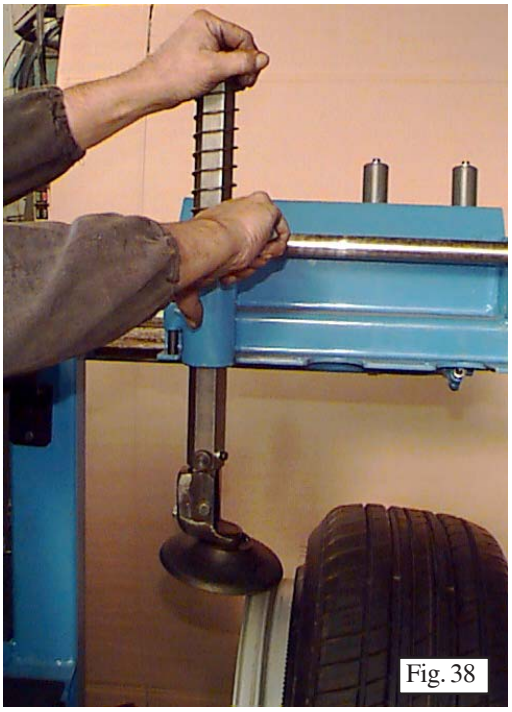


Fig. 38

Bring the disk on the rim inner groove edge and lock it in position by means of the locking lever (fig. 38)

Unloose the nut as shown in fig. 39

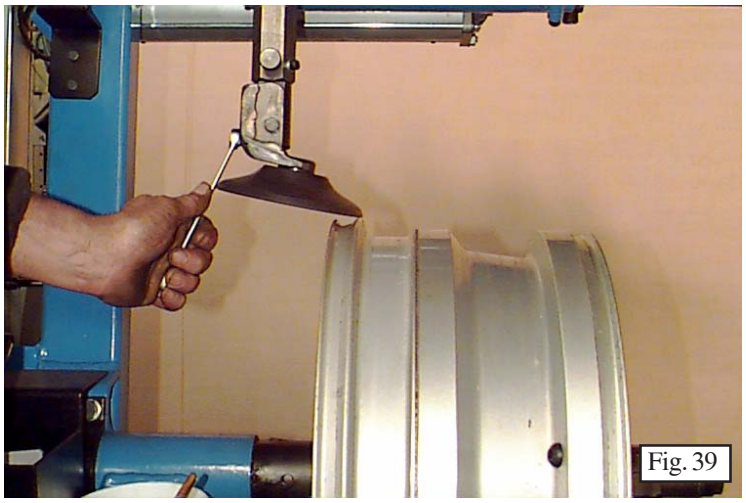


Fig. 39

Move the conical tool towards the rim outer side

Lower the tool by hand and adjust it by means of the proper screw to let the tool skim over (not to touch) the edge at its max. swinging point. See fig. 40 for reference.

Unloose the screw to increase the swinging angle, tighten the screw to reduce it.

Once ended the adjustment, tighten the locking nut.

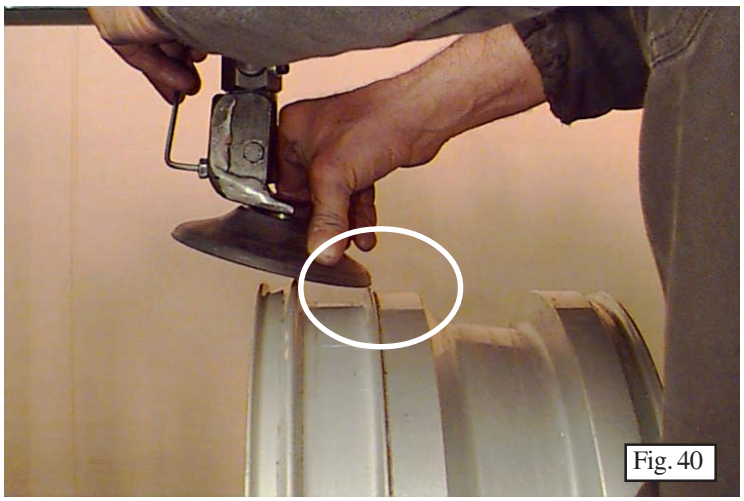


Fig. 40

8.4 PAX SYSTEM" TYRES MOUNTING OPERATIONS

ATTENTION: The following check is very important to prevent any risk of tyre bursting during inflating phase. Before starting mounting operation, check that:

- Both by the touch and at sight, the tyre shall not present any defect and the ply shall be free from any damage. In case of defect/damage DO NOT mount the tyre.

- The rim shall not present any dent or buckling. In particular for what concerns alloy rims, the dents often cause inner micro-fractures, which are not eye-catching and which can compromise the rim solidity with consequent danger during inflating phase.

- The diameter of rim and tyre shall be exactly the same. Do not mount tyres onto rims if their relevant diameters have not been detected with accuracy.

Important: for any intervention on pressure sensor always refer to the instructions given by manufacturers.

For introducing the inner ring back into the tyre, always refer to the instructions for Pax System mounting given by manufacturers.

Grease tyre bead, inner ring edge and rim as well.

Set the tyre/inner ring unit onto rim (fig. 41)

NOTE: "PAX System" specifications confine themselves to the use of lubricants for "touring" tyres.

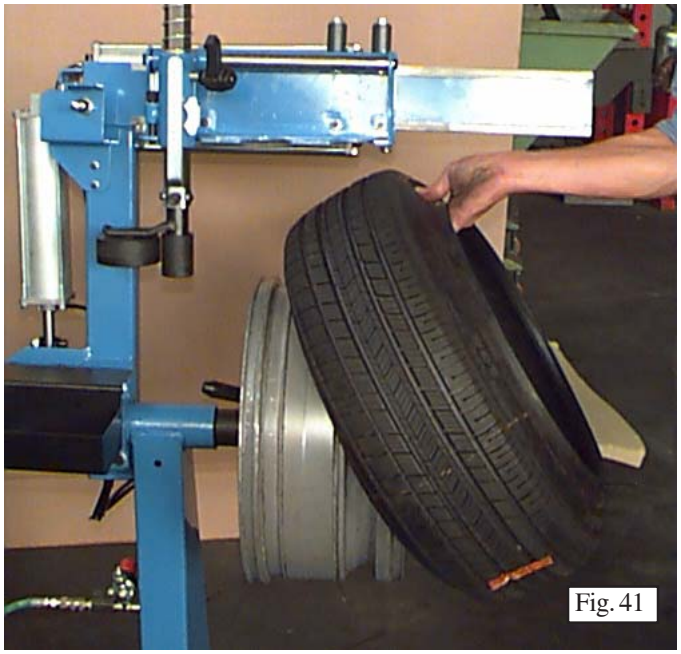


Fig. 41

CLIP INNER RING POSITIONING

Move the tool downwards until the tyre bead is set on its proper support.

Move the tool upwards until the rim measure (in mm.) is reached on the scale bar.

Use **EXT** as a reference since you are working on the rim outer side.

ATTENTION: during this mounting phase make sure that tyre bead is well positioned on the relevant tool support as not to damage the bead (fig.42)

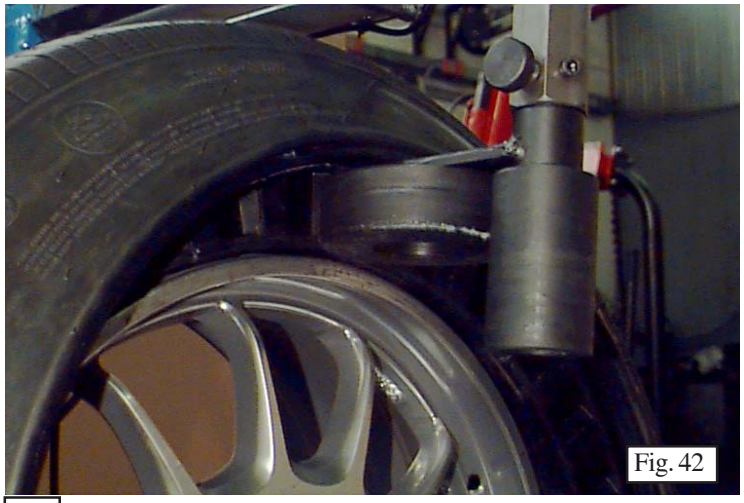


Fig. 42

Move the disk tool progressively inwards to enable the support ring to correctly position itself in its seat.

ATTENTION: with “Pax System” tyres with **clip inner ring**, to make sure the inner ring has been well positioned, we suggest you to let the roller touch the rim and perform at least one full turn of tyre in this position. (Fig 43)

Move the operating arm to rest position

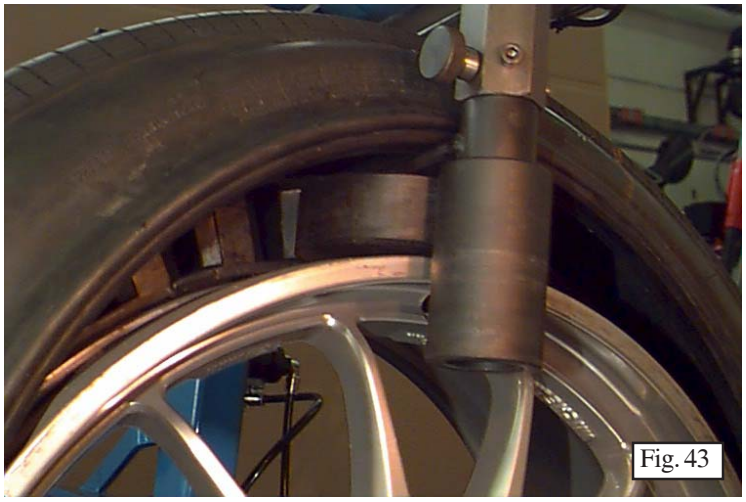


Fig. 43

PLANE INNER RING POSITIONING

Move the tool down-/upwards until the rim measure (in mm.) is reached on the scale bar.

Use **EXT** as a reference since you are working on the rim outer side.

Move the tool progressively inwards to enable the support ring to correctly position itself in its seat.

ATTENTION: with “Pax System” tyres with **plane inner ring**, to make sure the inner ring has been well positioned, we suggest you to check that its small teeth have been well set into the seat.

Fig. 44

Fig. 45

Use the proper bent lever (ref.29) to slide the inner tyre bead out of rim.(fig. 45-46)

Fig. 46

DO NOT keep your hands onto the wheel: the recovery back to "working" position could cause a hand-crushing between rim and tool.

Fix the support plate (16) to the rim to facilitate mounting operations.

NOTE:
During the mounting phase, when setting the bead on the tyre, position the tool as follows:

- Both outside and inside, use **EXT** as a reference and position the tool one level lower than the rim measure.

Practical example:
in case of rim having 420mm. size the tool must be positioned in correspondence with 40 on scale bar, using **EXT** as a reference

Fig. 47

Fig. 48

Fig. 49

Owing the particular shape of some wheels it can happen that the support plate (ref. 16) can't be applied on rim outer side.
In such cases, it is necessary to use the shaped plate (ref. 27) as shown in fig. 50

To use it, make reference to the instructions given for plate ref. 16.

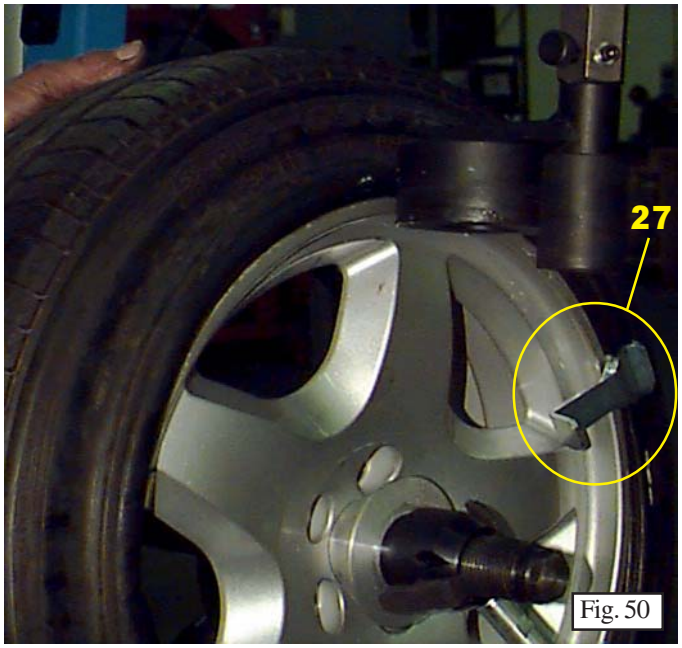


Fig. 50

Release the operating arm (fig.51)

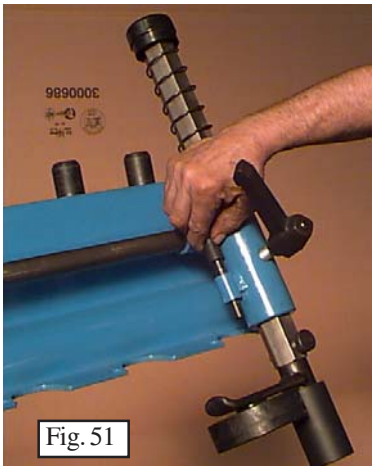


Fig. 51

Move it by hand in the position shown by fig. 52.

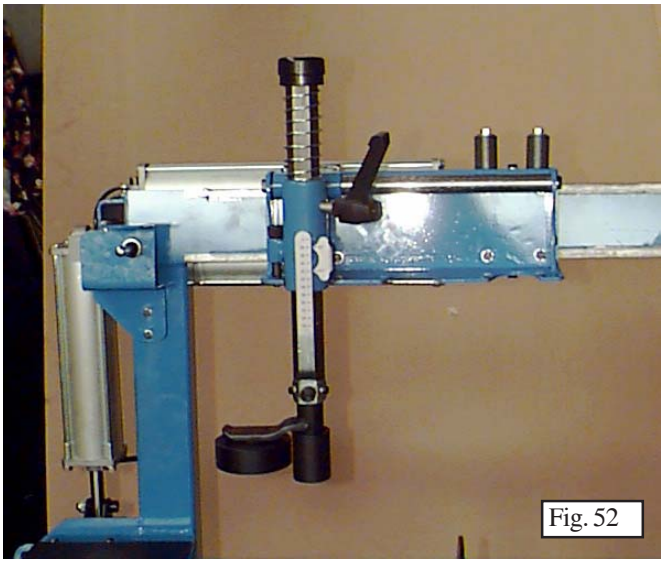


Fig. 52

DO NOT keep your hands onto the wheel: the recovery back to "working" position could cause a hand-crushing between rim and tool.

Apply the support plate (ref.16) to the rim to facilitate mounting operations.

Move the tool until the mounting roller is set against the rim.

Let the tyre turn.

Fig. 53

Go on turning until the bead is completely set onto the rim.

Fig. 54

Remove the support plate (16)

Move the operating arm in rest position.

Inflate the tyre as much as necessary to check the correct positioning and fastening of its beads.

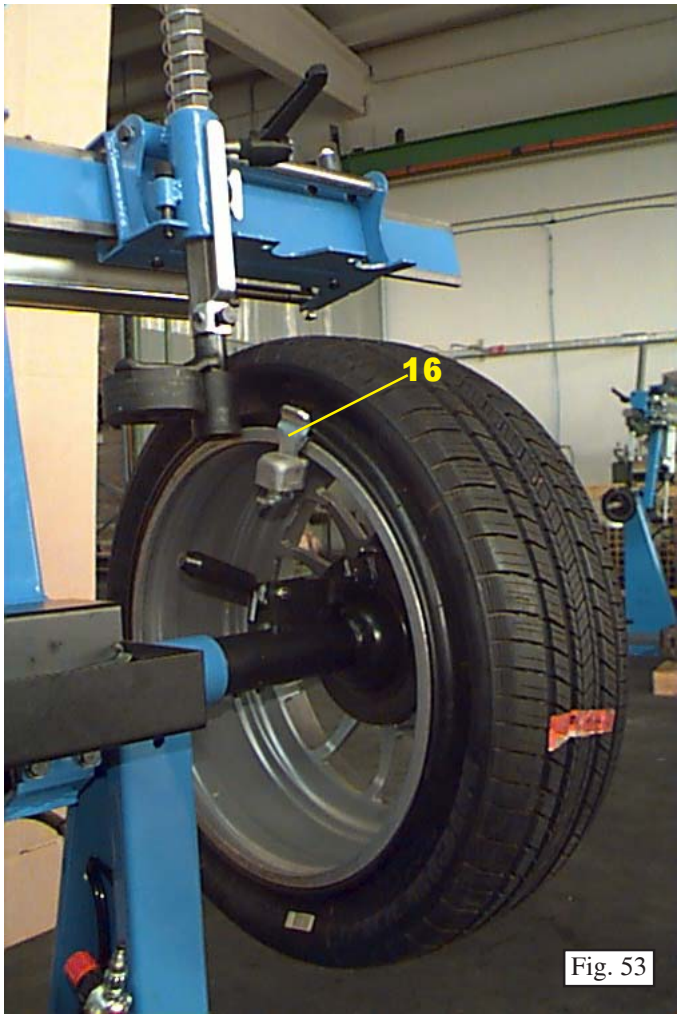


Fig. 53

9. TYRE INFLATION

The greatest attention is called for inflating tyres. Keep strictly to the following instructions since the tyre changer is NOT designed and built to protect the user (or anyone else in the vicinity of the machine) in case of accidental tyre burst.

⚠ DANGER

Tyre burst or rim break can cause serious injury or even death to the operator.

Check carefully the dimension of rim and tyre, which must correspond to each other.

Also check the state of wear of tyre and rim in order to find out any possible defect before starting the inflation.

Inflate the tyre with brief jets of air, checking the pressure frequently.

All our tyre-changers are automatically limited to a max. inflating pressure of 3.5 bar (51 psi). NEVER EXCEED THE PRESSURE RECOMMENDED BY TYRE MANUFACTURER.

Keep yourself as far as possible from tyre during inflating phase.

- Connect the airline gauge fitting to the tyre valve.
- Check the diameter of rim and tyre again.
- Make sure that rim and tyre are well greased, otherwise grease them.
- Press and release the gauge trigger frequently, checking the pressure onto the manometer, until the tyre is perfectly fit onto the rim.
- Go on inflating until the pressure recommended by manufacturer is reached. Always inflate by brief jets of air and often check the pressure.

⚠ DANGER

DANGER OF EXPLOSION!
Never exceed the pressure recommended by the tyre manufacturer and, in any case, never exceed 3.5 bar (51 PSI)

In case a higher pressure is required, take the tyre from tyre-changer and set it inside a proper inflating safety cage to go on inflating.

Keep yourself as far as possible from tyre.

Do not allow unauthorized staff to use the machine.

Bystanders can't stay near the machine during inflation.

10. MOVING

To move the tyre changer you will need a fork-lift truck.

•Disconnect the pneumatic and electric power supplies.

•Apply leverage to one side of the base so as to raise it slightly from the floor, insert the forks of the truck under the base and slide the tyre changer onto them.

•Set the tyre changer down in its new position.

Note: The place chosen for repositioning the tyre changer must comply with European safety at work standards.

11. STORAGE

In the event of storage for long periods of time, be sure to:

•Disconnect all sources of power.

12. SCRAPPING

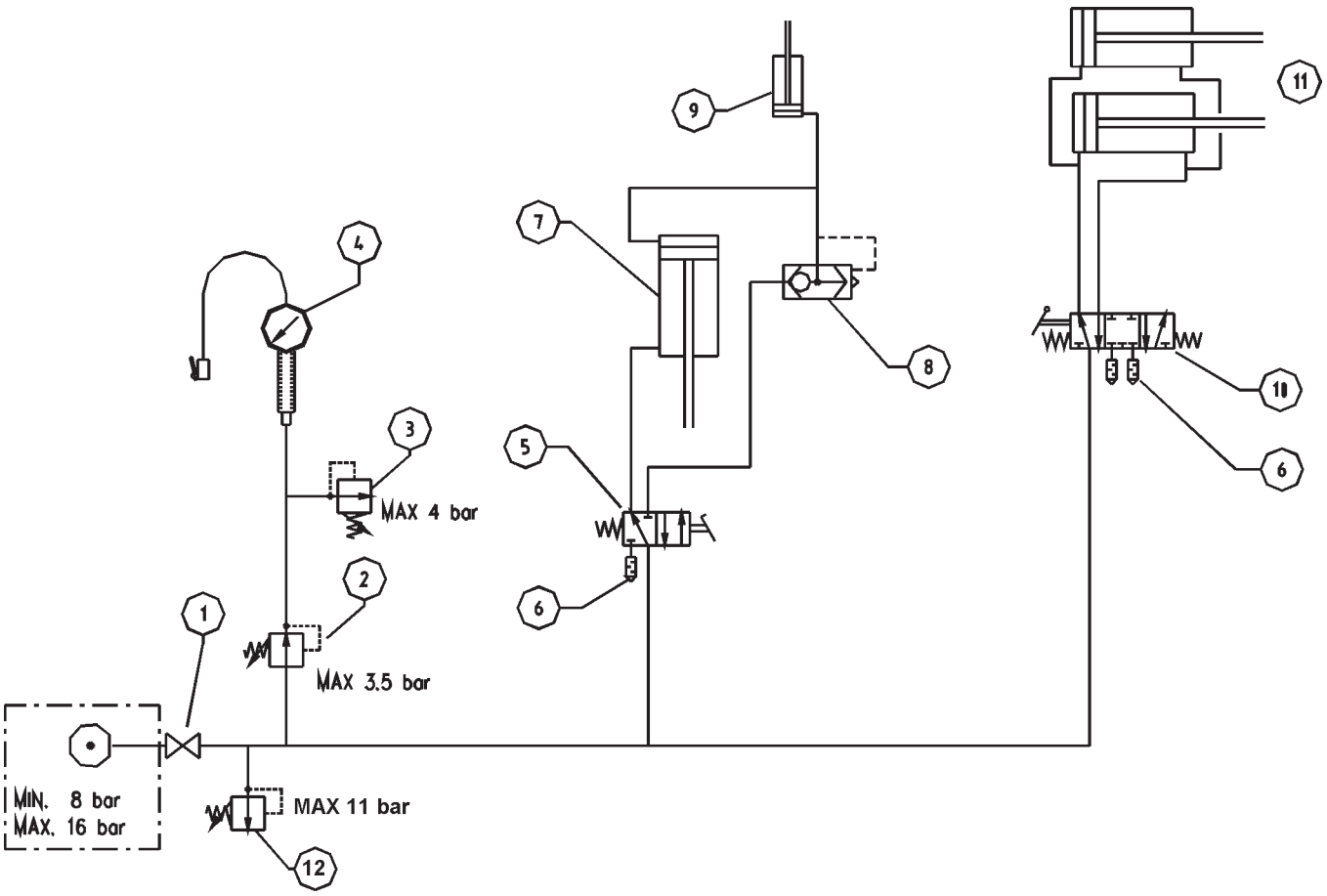
If you decide to scrap the machine, be sure to make it inoperative by disconnecting it from all sources of power.

- Remove all NON-ferrous materials and dispose of them as prescribed by national law.
- Collect the oil and dispose of it at an authorized point as prescribed by national law.
- Scrap the rest as ferrous material.

13. TECHNICAL DATA SHEET

TECHNICAL FEATURES	
Tyre max. outer diameter	890 mm. (35")
Rim min. diameter	240 mm. (10")
Tyre width	380 mm. (15")
Wheel max. weight	60 Kg.
Tool bead breaking power (7 bar pressure)	6050 N
Max. rotating torque of locking flange	530 Nm
Dimensions (WxLxH) max.	1050x560x1650 mm.
Net weight	90 Kg.
Noise level in working conditions	< 70 db

Airline Diagram



1. Air intake
2. Pressure regulator
3. Safety valve
4. Inflating gauge
5. Locking flange valve
6. 1/8” silencer
7. Flange cylinder
8. Quick relief valve
9. Cylinder
10. Operating arm control valve
11. Operating arm moving cylinder
12. Safety valve 11bar

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